

No. 693,560.

Patented Feb. 18, 1902.

E. MOLLOY.
SHEET METAL I-BEAM.

(Application filed Aug. 1, 1900.)

(No Model.)

2 Sheets—Sheet 1.

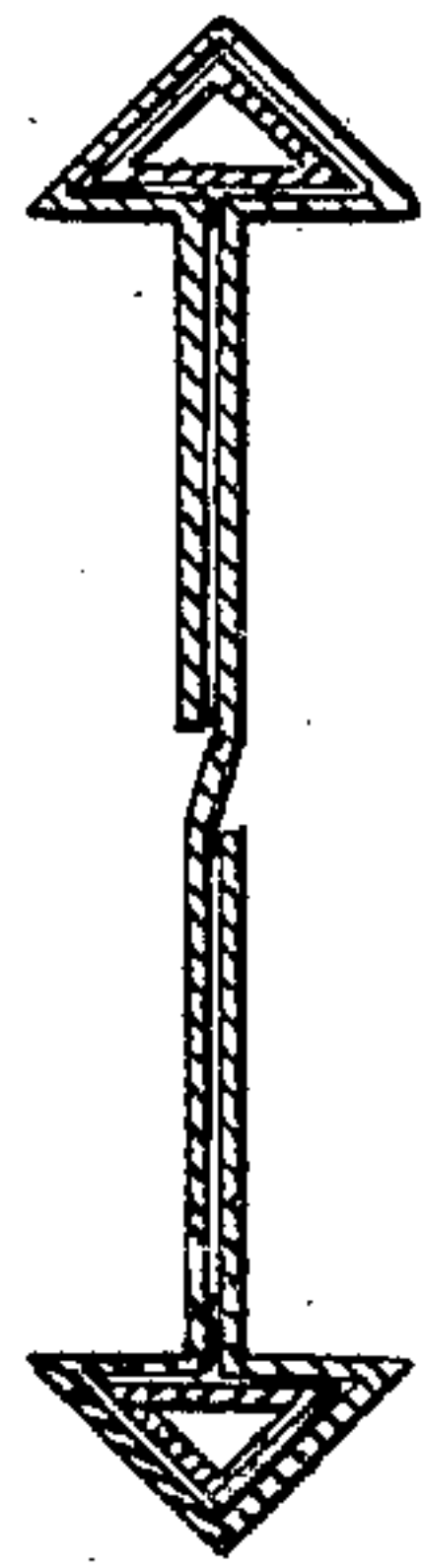


Fig. 6.

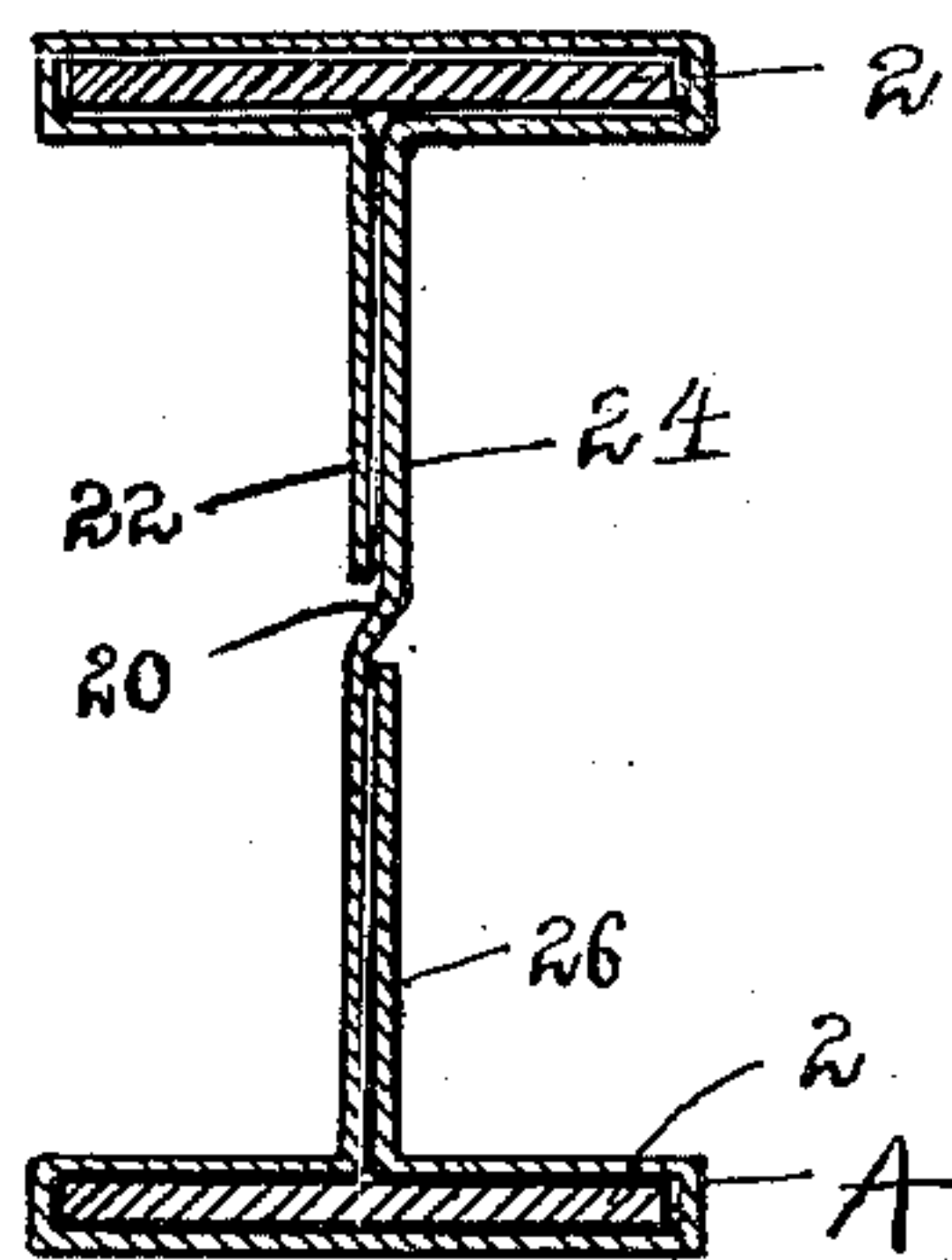


Fig. 1.

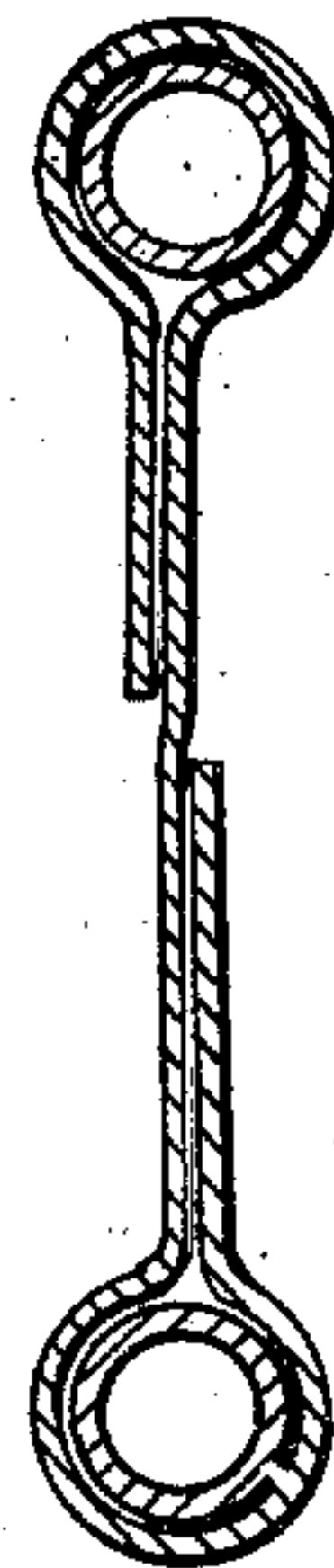


Fig. 5.

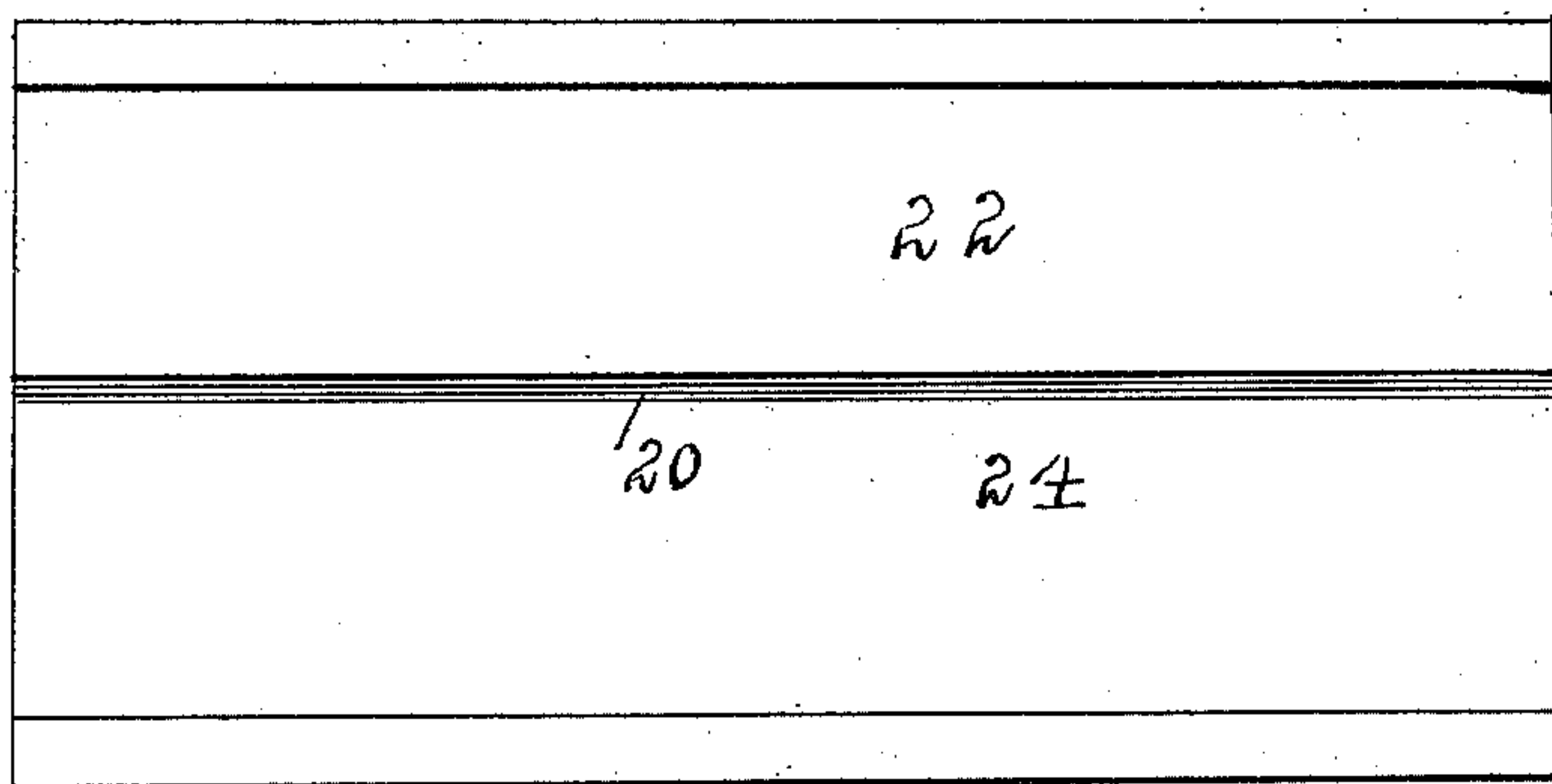


Fig. 10.

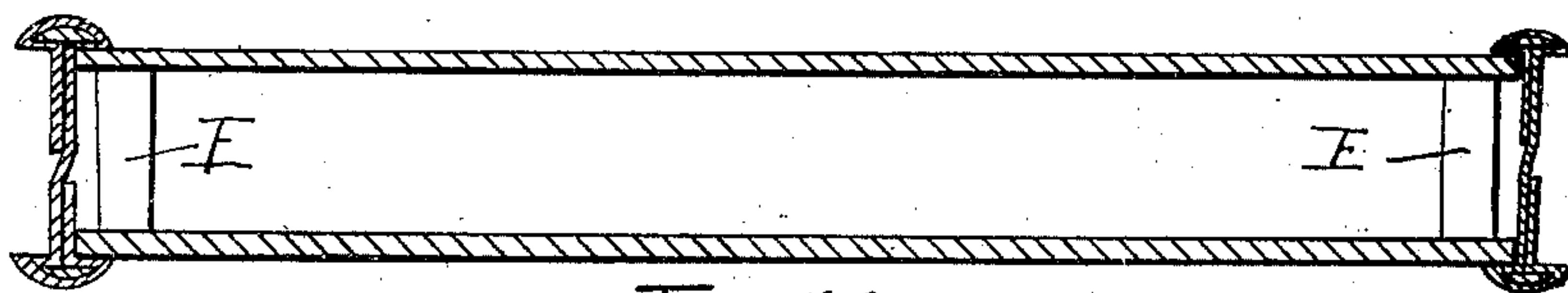


Fig. 7.

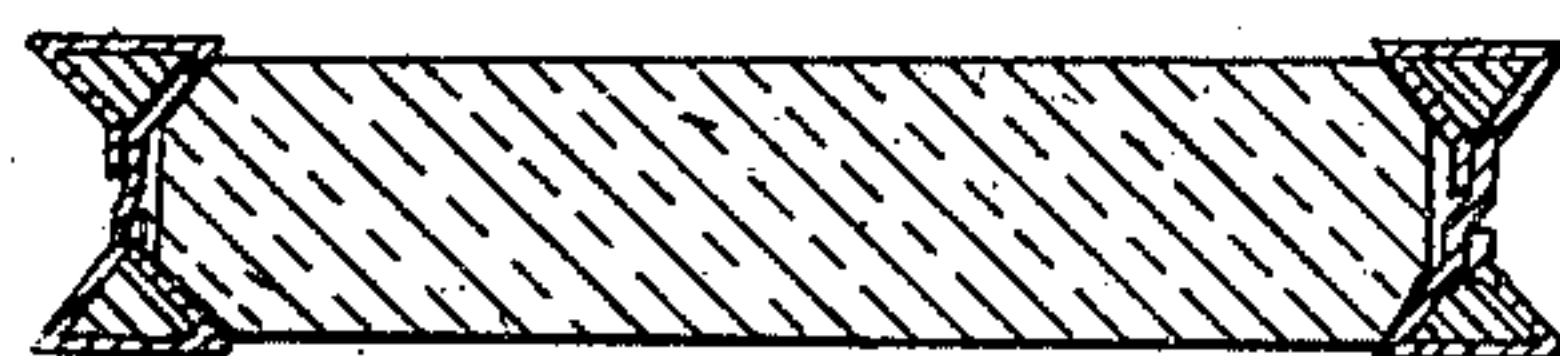


Fig. 8.

Witnesses

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Ind. R. Reed

Inventor.

Edmond Molloy
per Markville Collier
atty

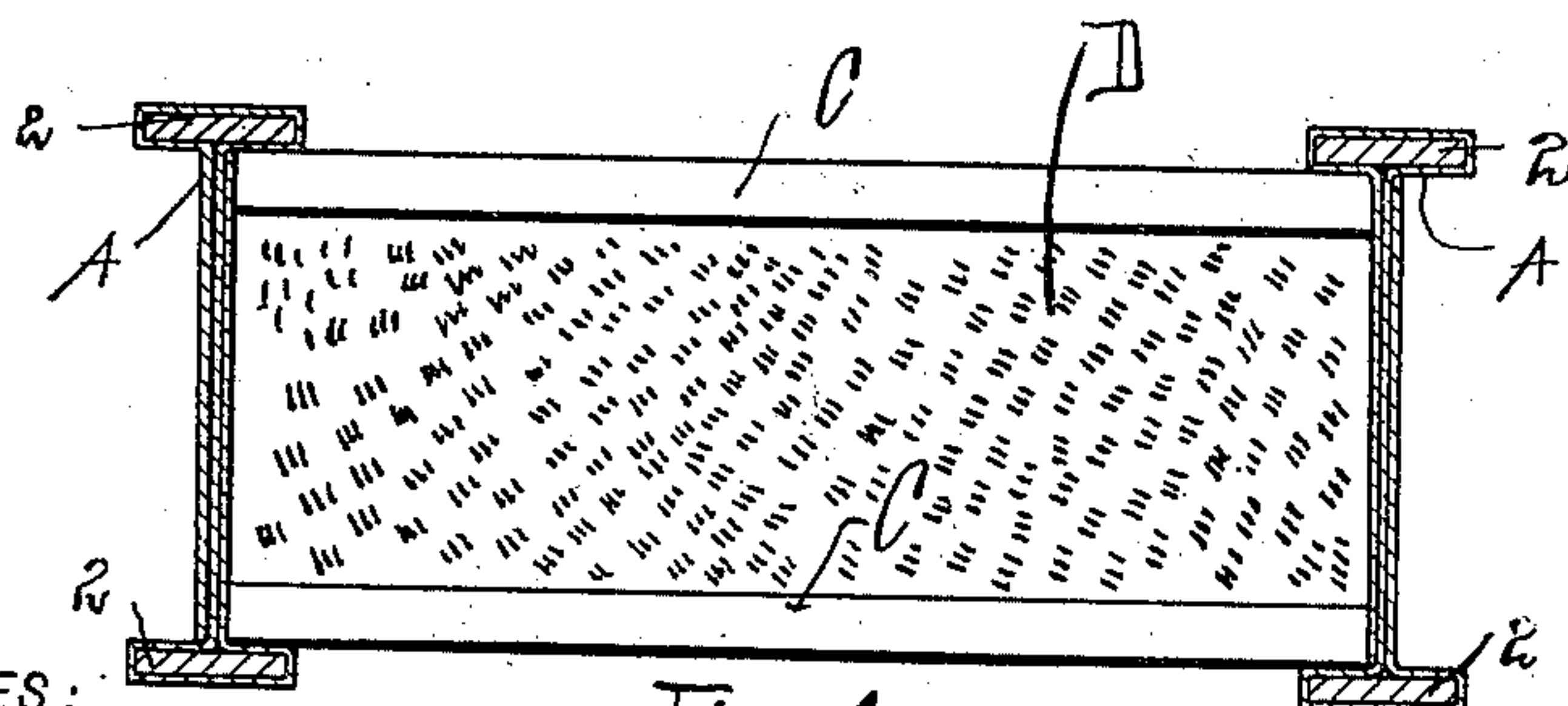
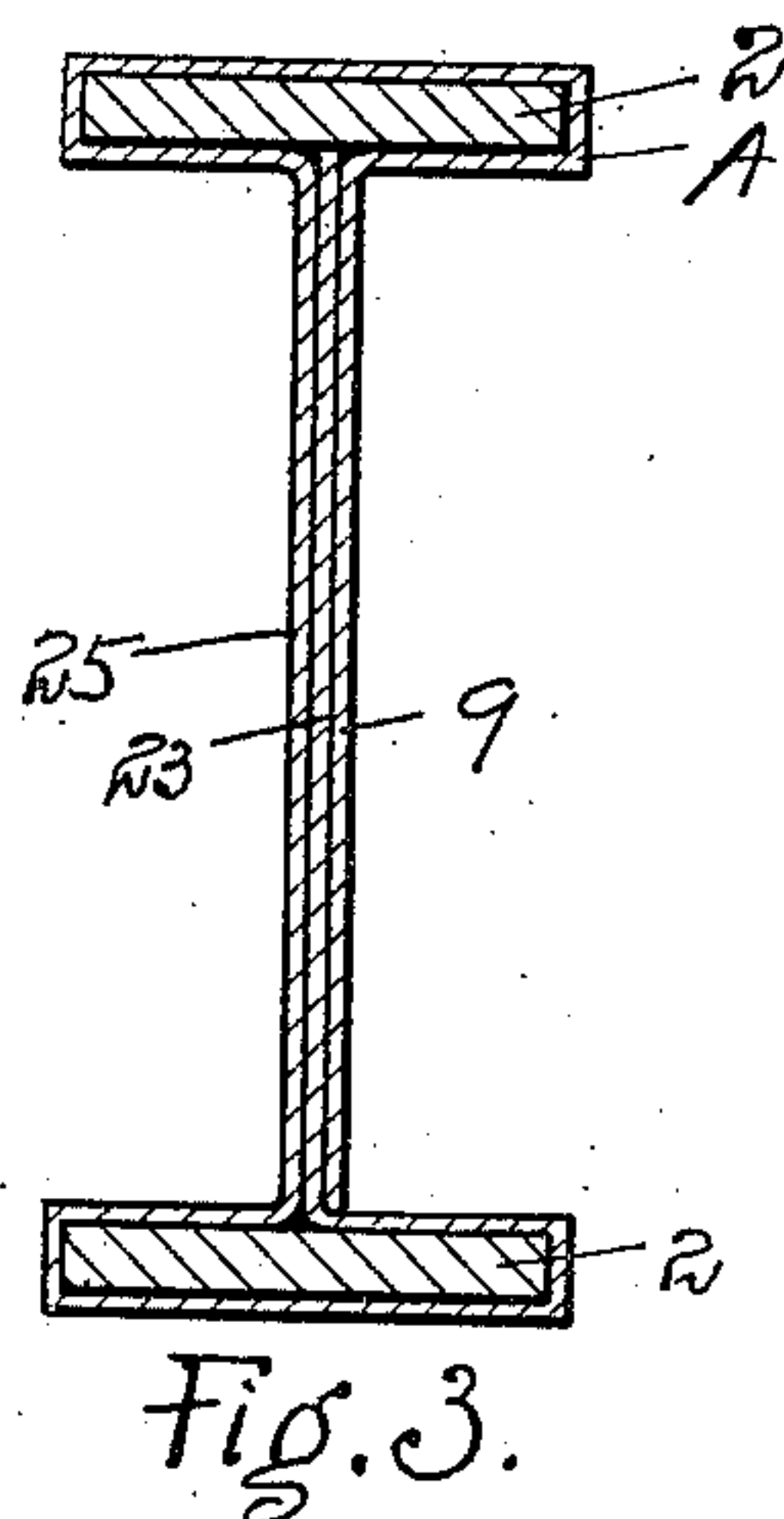
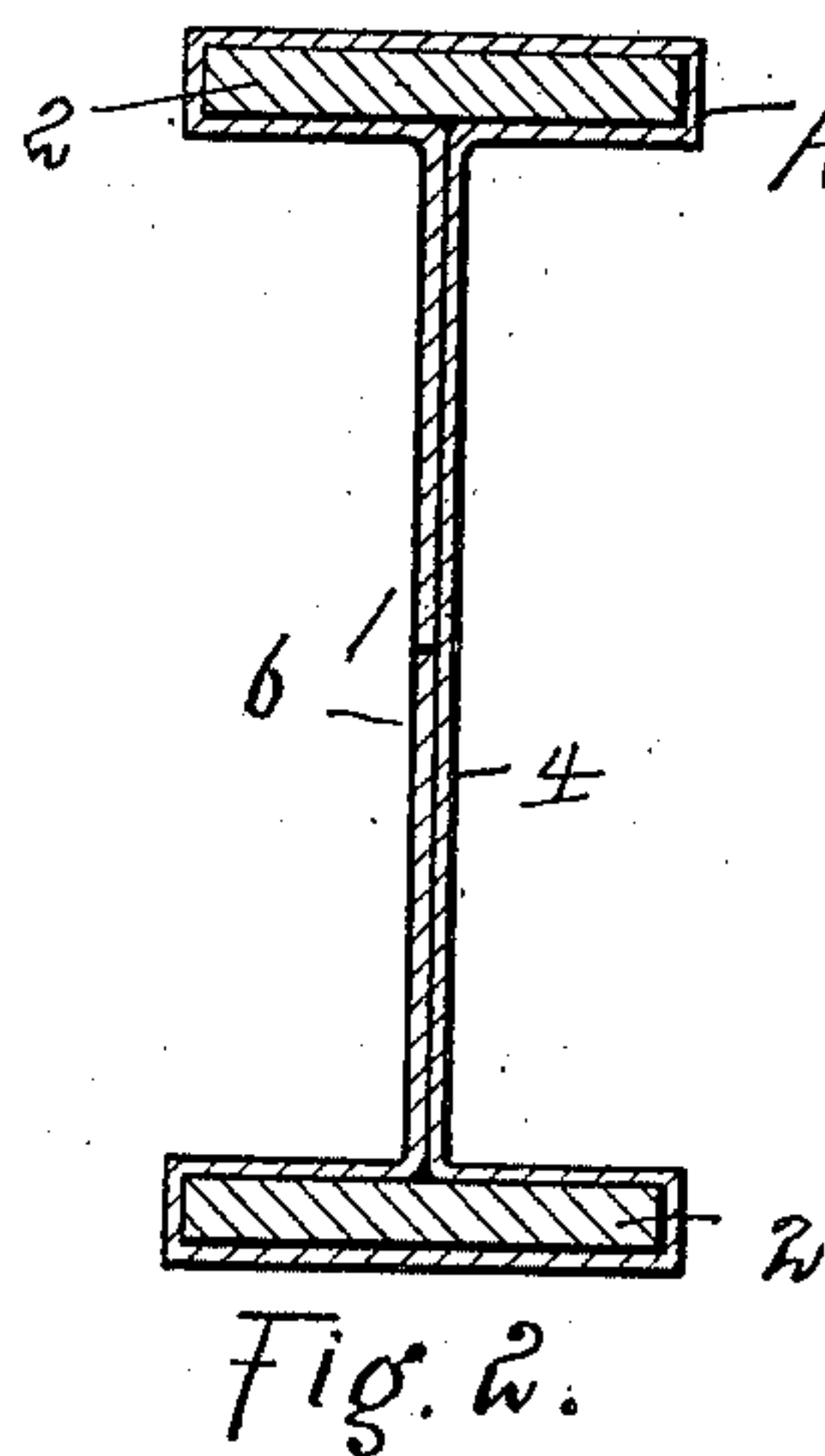
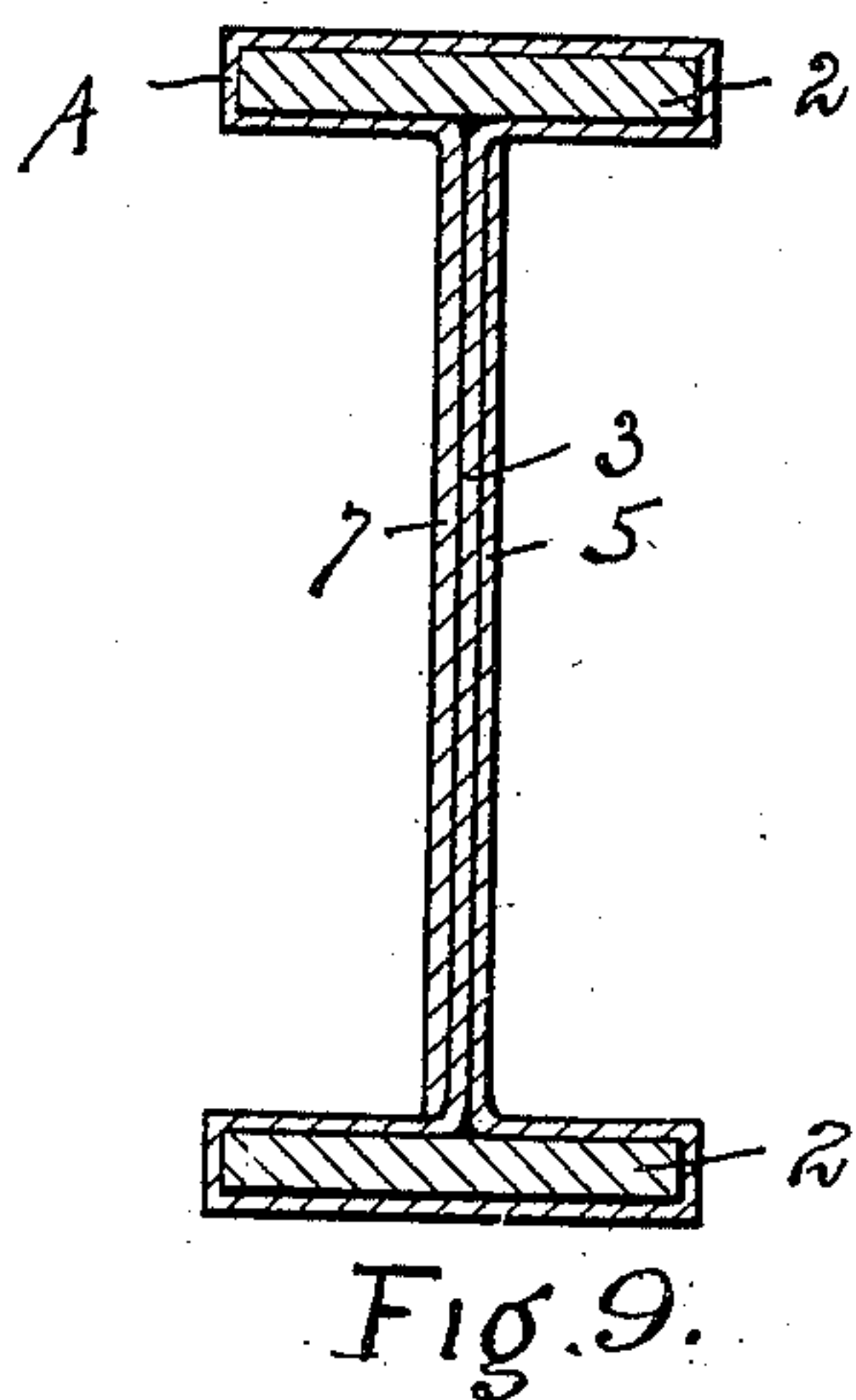
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(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

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INVENTOR

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UNITED STATES PATENT OFFICE.

EDMOND MOLLOY, OF PHILADELPHIA, PENNSYLVANIA.

SHEET-METAL I-BEAM.

SPECIFICATION forming part of Letters Patent No. 693,560, dated February 18, 1902.

Application filed August 1, 1900. Serial No. 25,493. (No model.)

To all whom it may concern:

Be it known that I, EDMOND MOLLOY, a citizen of the United States, and a resident of the city and county of Philadelphia and State of Pennsylvania, (whose post-office address is Lehigh avenue, near Memphis street, Philadelphia, Pennsylvania,) have invented a new and useful Improvement in Sheet-Metal I-Beams, of which the following is a clear, full, and sufficient specification, reference being had to the drawings annexed.

My I-beam is formed of two pieces of stiffer material and a flexible sheet material wrapped around the same, a single sheet of the flexible material passing completely around both of the pieces of stiffer material and extending between them, each piece of the stiffer material thus being completely enveloped in the piece of flexible material and forming a head or flange of the beam, and the portion of the sheet of flexible material extending between the heads or flanges and the portions of the sheet material extending from one of them toward the other forming the web of the beam.

The I-beam of the present application is not intended to be used in floor structures and has none of the requisites for such purposes. It is intended as an upright merely for structures, framing, and similar purposes where no great strain laterally is to be withstood.

Figure 1 is a cross-section of what I regard as the best form of my invented beam. Fig. 2 is a cross-section of another form. Fig. 3 is a cross-section of a third form. Fig. 4 is a cross-section of two I-beams with two slabs forming a partition or similar construction. Figs. 5 and 6 are views of beams having a modified form of the piece of stiffer material, and Figs. 7 and 8 are modified forms of the partition or similar structure; and Figs. 9 and 10 are a view of a section of a modification of my beam and a side elevation of the form shown in Fig. 1, respectively.

The sheet metal A in the form shown in Fig. 1 is wrapped around one of the pieces of stiffer material 2, the part 22 of the sheet A extending outward at right angles substantially with the inner face of the piece 2 to, say, one-half the distance between the two heads, and the part 24 being turned in reverse direction around the other piece of

stiffer material 2, and then the part 26 of the sheet A being bent to lie close up to the part 24 and to extend, preferably, about one-half way to the other head, the three parts 22, 24, and 26 of the sheet metal A forming the web, but the thickness of the web being nowhere greater than two thicknesses of the sheet material A. Of course the wrapping of the sheet material can begin from the part 24 or 26 as well as from the part 22, as described. I prefer that the part 24 be bent as shown at 20 in the drawings, so that the entire web will be straight.

The beam shown in Fig. 2 is composed of the two pieces 2 2, as before described, and the sheet metal A, surrounding the same, the part 4 of the sheet metal extending from one of the pieces 2 to the other and the part 6 extending part way from each toward the other, the parts 6 and 4 forming the web.

In Fig. 3 is shown a form of my device in which the sheet material A after having been turned around the bottom piece 2 of the beam and the part 25 bent up parallel to the part 23 is bent away from the same and the part 9 bent down beside and made to lie parallel with and outside of part 23.

The beam shown in Fig. 9 is the same as that shown in Fig. 1, except that the web is formed of three parallel pieces, as the outside pieces are carried up to, or nearly up to, the opposite head instead of stopping about midway, as shown in Fig. 1.

Fig. 5 shows a form of my device where the pieces of stiffer material are in the form of tubes, and Fig. 6 where they are in the form of hollow triangles in section. Many other forms of stiffer material can be employed to form the basis of the heads of the beam. Where my beam is used in construction, I consider this the best form of using the beam when it is erected vertically. The beams composed of the pieces 2 2 and the sheet material A are erected in place, and between the beams are placed the tiles, blocks, or other filling-slabs C C, which are held in place, from falling outward, at any rate, by the heads of the beams. In practice the slabs are slipped behind the head of the beams, which have already been erected, by pushing one side of the slab toward the head of the beam opposite to the side at which the slab is introduced, the

distance between the heads being sufficient to allow the other side of the slab to then slip past the head of the next beam, and the side of the slab which was first pushed backward
 5 being brought forward the whole slab is held in place by the heads of the beams next each other. The slab on the opposite side is then inserted in the same manner. After the slabs have been put in place they are supported by
 10 filling in the space between them with cement or other similar material D. (See Fig. 4.)

In Fig. 7 is shown a form of my device in which chock-blocks E E are inserted between the slabs to hold them in place. In this figure the heads of the beams are formed of sheet material wrapped around quarter-round rods, giving the effect of a vertical beading to the partition or other framing.

In Fig. 8 is shown a form of my device
 20 where the slab is sufficiently thick to fill the entire space between the heads of the beam. This form of my device is convenient where the slabs can be inserted from the top of the partition or other framing. In this figure the
 25 piece of stiffer material is a triangular sectional piece, with the apex of the triangle toward the inside.

Many other applications of the beam besides that shown can be made and will appear
 30 to a skilled workman after reading the foregoing specification.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

35 1. A sheet-metal I-beam composed of two pieces of stiffer material, having wound completely around the same a single sheet of sheet material, each of said pieces, thus enveloped, forming a flange of said beam, and the middle
 40 portion of the said sheet extending between the flanges, and both end portions of said sheet extending parallel with said middle portion to form the web, substantially as described.

45 2. A partition composed of a series of I-

beams consisting of end pieces of stiffer material having completely wound around both a single sheet of sheet material, each piece with the sheet material wrapped around same forming one of the flanges of the beam, and
 50 the middle portion of said sheet extending between said flanges to form the web together with the side portions of said sheet, which lie adjacent to said middle portion, and slabs extending from the web portion of one beam, to
 55 the web portion of the next and fitting tightly against said web portions; substantially as described.

3. A sheet-metal I-beam, composed of two pieces of stiffer material, having wound completely around both of them a single sheet of
 60 sheet material, each of said pieces thus enveloped, forming a flange of said beam, and the middle portion of said sheet extending between the flanges, and both side portions of
 65 said sheet extending parallel with the said middle portion, and lying on either side thereof, substantially as described.

4. A sheet-metal I-beam, composed of two pieces of stiffer material, having wound completely around the same a single sheet of sheet
 70 material, each of said pieces thus enveloped, forming a flange of said beam, the middle portion of said sheet extending between the flanges and the two end portions each extending
 75 parallel with and on opposite sides of the said middle portion, and part of the distance only between the said flanges, said middle portion having a double bend therein, whereby
 80 each portion of the middle portion of said sheet lies substantially in the line of the extension of the said side pieces; substantially as described.

In witness whereof I have hereunto set my hand and affixed my signature this 27th day
 85 of July, A. D. 1900.

EDMOND MOLLOY.

Witnesses:

GEO. W. REED,
 M. W. COLLET.